

REMARKS

Claims 1-3 and 5-7 are pending.

Claims 1 and 2 stand rejected under 35 USC 103(a) as being unpatentable over Khan, U.S. Patent 5,192,987, in view of Yamashita, U.S. Patent 6,995,397. This rejection is respectfully traversed.

Claim 1 recites “an n-type delta doped GaN layer ... having dopant concentration for reducing discontinuity of an electric field at an interface between the undoped AlN layer and the undoped GaN layer.” The Examiner relies on Yamashita as teaching this feature. However, applicant respectfully submits that Yamashita does not teach or suggest selecting the dopant concentration to reduce discontinuity of the electric field at the interface the AlN layer and the undoped GaN layer.

Although Yamashita contains a discussion relating to the dopant concentration of the delta doped layer 21, the dopant concentration in Yamashita’s structure is not selected to reduce discontinuity of the electric field at the interface the AlN layer and the undoped GaN layer. Specifically, the weakened electric field in the surface region of the channel layer 20 in Yamashita’s structure results not from reduction of discontinuity of the electric field, but from the “pinch off point” maintained at the deeper portion of the channel layer 20 away from the surface thereof.

In other words, the claimed dopant concentration is selected so as to reduce discontinuity of the electric field of the interface, whereas the dopant concentration in Yamashita’s structure is not intended for such reduction of electric field discontinuity. Thus, Yamashita fails to teach or suggest the above-quoted feature of claim 1.

Claim 2 is allowable at least due to its dependency from claim 1. Applicant requests that this rejection be withdrawn.

Claim 3 stands rejected under 35 USC 103(a) as being unpatentable over Khan in view of Yamashita, as applied to claims 1 and 2, and further in view of Phillips, U.S. Patent 6,770,902. This rejection is respectfully traversed.

Claim 3 is allowable at least due to its dependency from claim 1. Applicant requests that this rejection be withdrawn.

Claims 5 and 6 stand rejected under 35 USC 103(a) as being unpatentable over Khan, in view of Yamashita, as applied to claims 1 and 2, and further in view of Inoue, U.S. Patent 6,639,255. This rejection is respectfully traversed.

Claims 5 and 6 depend from claim 1 are therefore allowable for the reasons set forth above. Applicant requests that this rejection be withdrawn.

Claim 7 is rejected under 35 USC 103(a) as being unpatentable over Khan in view of Yamashita as applied to claims 1 and 2, and further in view of Abrokwah, U.S. Patent 5,895,929. This rejection is respectfully traversed.

Claim 7 is allowable at least due to its dependency from claim 1. Applicant requests that this rejection be withdrawn.

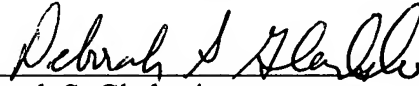
In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of the claims and to pass this application to issue. If it is determined that a telephone conference would expedite the prosecution of this application, the Examiner is invited to telephone the undersigned at the number given below.

In the event the U.S. Patent and Trademark Office determines that an extension and/or other relief is required, applicant petitions for any required relief including extensions of time and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection

with the filing of this document to Deposit Account No. 03-1952 referencing docket no. 204552031600.

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Respectfully submitted,

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